

Attachment 3: Vehicle Checklist for Buses and Vans – Accessibility Standards

Name of Bidder	
Number of Vehicles Proposed for Use in Contract:	
Type of Vehicle: (Check one. If multiple types are intended for use please submit a checklist for each)	
<ul style="list-style-type: none"> • Van. Lift- or ramp-equipped • Bus. Lift- or ramp-equipped (Note: MBTA's preference is for use of low floor, ramp-equipped vehicles) 	
Make/Model(s)	
Year(s)	
Name of Person Reviewing Specifications	
Signature	
Date	

Ramp Specifications (if applicable)

Vehicle Meets Specification (Yes/No)	Specification (Regulation)	Note Actual Vehicle Measurement
	Ramps 30 inches or greater in length must have a design load of 600 pounds. Ramps < 30" in length must have a design load of 300 pounds. (§ 38.23(c)(1))	
	Ramp surface must be continuous and slip resistant. Protrusions cannot be more than 1/4 inch. (§ 38.23(c)(2))	
	Ramps must be at least 30 inches wide. (§ 38.23(c)(2))	
	Ramps must accommodate both three-wheeled and four-wheeled mobility aids. (§ 38.23(c)(2))	
	If the threshold from the ground to the ramp surface exceeds 1/4 inch, it must be beveled with a maximum slope of 1:2. (§ 38.23(c)(3))	
	Side barriers, at least 2 inches high, must be provided. (§ 38.23(c)(4))	
	<p>Ramps must have the least slope practicable. When the ramp is deployed to ground, the slope cannot exceed 1:4 (i.e., for a vehicle with a finished floor 12 inches above the ground, a 48-inch ramp would be needed). When deployed to a 6-inch curb the following maximum slopes would apply:</p> <p>Finished floor height above 6-inch curb</p> <ul style="list-style-type: none"> • 3 inches or less – maximum slope of 1:4 • 6 inches or less, but more than 3 	

	inches – maximum slope of 1:6 <ul style="list-style-type: none"> • 9 inches or less, but more than 6 inches – maximum slope of 1:8 • Greater than 9 inches – maximum slope of 1:12 (§ 38.23(c)(5)) Note: MBTA preference is given to vendors proposing to use vehicles equipped with a ramp that, when deployed to ground, the slope does not exceed 1:7.	
	The ramp must be firmly attached to the vehicle. (§ 38.23(c)(6))	
	Gaps between the ramp and vehicle finish floor cannot be more than 5/8 inch. (§ 38.23(c)(6))	
	A compartment or securement system must be provided for the ramp to keep it from impinging on the space set aside for mobility aid users and to keep it from becoming a hazard in the event of a sudden stop. (§ 38.23(c)(7))	
	Handrails are not required. If they are provided, however, they must support 100 pounds, be 30 to 38 inches above the ramp surface, have a cross-sectional diameter of 1 1/4 to 1 1/2 inches, and be continuous for the full length of the ramp. (§ 38.23(c)(8))	
	At least one ramp must deploy to the right-side (curb-side) of the vehicle.	

Lift Specifications (if applicable)

Meets/ Does Not Meet/NA	Specification (Regulation)	Note Actual Measurement
	The design load of a lift must be at least 600 pounds. Working parts must have a safety factor of at least six. Non working parts must have a safety factor of at least three. (49 CFR § 38.23(b)(1))	
	Controls must be interlocked with the brakes, transmission, or door so that the vehicle cannot move unless the interlock is engaged. (§ 38.23(b)(2)(i))	
	Controls must be "momentary contact type" (meaning they require constant pressure) and must allow the up/down cycle to be reversed without causing the platform to "stow" while occupied. (§ 38.23(b)(2)(i))	
	Lifts must be equipped with an emergency method of deploying. This emergency backup system must be capable of being operated both up and down without the platforms "stowing" while occupied. (§ 38.23(b)(3))	
	Must be designed so that in the event of a power failure, the platform cannot fall faster than 12 inches per second. (§ 38.23(b)(4))	
	Must have an inner barrier or inherent design feature to prevent the mobility aid from rolling off the side closest to the vehicle until the platform is in its fully raised position. (§ 38.23(b)(5))	

	Side barriers must be at least 1 1/2 inches high. (§ 38.23(b)(5))	
	The “loading-edge” (or outer) barrier must be sufficient to prevent a power wheelchair from riding over or otherwise defeating it. If this barrier is automatic, it must close when the platform is more than 3 inches off the ground. If the outer barrier is to be driver operated, it must have an interlock or inherent design that prevents the platform from being raised until the barrier is closed or other system is engaged. (§ 38.23(b)(5))	
	The platform surface must be slip resistant with no protrusions over 1/4 inch high. (§ 38.23(b)(6))	
	The platform must be at least 28 1/2-inches wide measured at the platform surface and at least 30 inches wide measured from 2 inches above the platform surface to 30 inches above the surface. It must also be at least 48 inches long measured from 2 inches above the surface to 30 inches above the surface. (§ 38.23(b)(6))	
	Gaps between the platform surface and any barrier cannot be more than 5/8 inch. Semi-automatic lifts can have a handhold in the platform that measures no more than 1 1/2 inches by 4 1/2 inches. (§ 38.23(b)(7))	
	When in the fully raised position, the platform surface must be vertically within 5/8 inch of the finished floor and horizontally within 1/2 inch of the finished floor. (§ 38.23(b)(7))	
	The ramp from ground to platform (often the lowered outer barrier) must have a slope of no more than 1:8 for a maximum rise of 3 inches (i.e., if platform is 1 inch off the ground, ramp must be at least 8 inches long). If the threshold from ground to ramp (i.e., the thickness of the ramp material) is more than 1/4 inch, it must be beveled with a slope no greater than 1:2. (§ 38.23(b)(8))	
	The platform must not deflect more than 3 degrees in any direction when a 600-pound load is placed on the center of the platform. (§ 38.23(b)(9))	
	The platform must raise or lower in no more than 6 inches per second. The platform must be stowed or deployed in no more than 12 inches per second. Horizontal acceleration cannot be more than 0.3 g. (§ 38.23(b)(10))	
	Components of a lift must be designed to allow boarding in either direction. (§ 38.23(b)(11))	
	Must be equipped with two handrails that move in tandem with the lift platform. Handrails must be 30-38 inches above the platform surface and must have a usable grasping area of at least 8 inches. Handrails must be capable of supporting	

	100 pounds, must have a cross-sectional diameter of 1 1/4 to 1 1/2 inches, and must have at least 1 1/2 inches of "knuckle clearance." (§ 38.23(b)(13))	
	Lifts may be marked to identify the preferred standing position. (§ 38.23(b)(12))	
	At least one lift must deploy to the right-side (curb-side) of the vehicle.	

Securement Area

Meets/Does Not Meet/NA	Specification (Regulation)	Note Actual Measurement
	Vehicles more than 22 feet in length must have at least two (2) securement locations. Vehicles 22 feet or less in length must have at least one (1) securement location. (§ 38.23(a)) Vehicles are to be measured from the front-most part to the rear-most item (including the bumpers).	
	<p>Wheelchairs and mobility aids must be oriented as follows:</p> <ul style="list-style-type: none"> For vehicles more than 22 feet in length, at least one securement position must be forward facing. Other securement areas can be either forward or rear facing. For vehicles 22 feet or less in length, the one required position can be either forward or rear facing. <p>(§ 38.23(d)(4))</p>	
	If wheelchair and mobility-aid users are secured in a rear-facing orientation, a padded barrier must be provided. The barrier must be 18 inches wide and extend from 38 inches to 56 inches above the floor. (§ 38.23(d)(4))	
	<p>Securement systems must have the following design loads:</p> <ul style="list-style-type: none"> For vehicle with a GVWR of 30,000 pounds or more: 2,000 pounds for each strap/clamp and 4,000 pounds per mobility aid. For vehicles with a GVWR of less than 30,000 pounds: 2,500 pounds per clamp/strap and 5,000 pounds per mobility aid. <p>(§ 38.23(d)(1))</p>	
	Securement area must be located as close to the accessible entrance as possible. (§ 38.23(d)(2))	
	<p>A clear floor area of 30 inches wide by 48 inches long must be provided for each securement area. This can include an area up to 6 inches under a seat as long as there is a vertical clearance of at least 9 inches. If flip-seats are utilized, they cannot obstruct the required floor area. The required floor area can overlap the access path (the path of travel from the accessible entrance to the securement area). (§ 38.23(d)(2))</p> <p>Note: MBTA preference is given to vendors</p>	

	proposing to use vehicles equipped with a securement areas with a clear floor space of 30 inches wide by 54 inches long.	
	The securement system must accommodate all common wheelchairs and mobility aids (any mobility aid not exceeding 30 inches in width and 48 inches in length and weighing no more than 600 pounds when occupied)* and be operable by someone with average dexterity that is familiar with the system. [§ 38.23(d)(3)] *The “common wheelchair” concept was removed from Part 37, but the above dimensions/weight still represent the minimum a compliant lift must accommodate.	
	Securement systems must keep mobility aids from moving no more than 2 inches in any direction. (§ 38.23(d)(5))	
	The securement system must be located to be readily accessed when needed but must not interfere with passenger movement or be a hazard to passengers. It should also be reasonably protected from vandalism. (§ 38.23(d)(6))	

	Securement systems must keep mobility aids from moving no more than 2 inches in any direction. (§ 38.23(d)(5))	
	The securement system must be located to be readily accessed when needed but must not interfere with passenger movement or be a hazard to passengers. It should also be reasonably protected from vandalism. (§ 38.23(d)(6))	
	A seat belt and shoulder harness must be provided for each securement position. The seat belt and shoulder harness must be separate from the securement system for the mobility aid. (§ 38.23(d)(7))	
	Each securement location must have a sign designating it as such. Characters on these signs must have (1) a width-to-height ratio between 3:5 and 1:1; (2) a stroke width-to-height ratio between 1:5 and 1:10; (3) minimum height (using an uppercase “X”) of 5/8 inch; (4) wide spacing (generally, the space between letters must be 1/16 the height of uppercase letters); and (5) contrast with the background, either light-on dark or dark-on-light. (§ 38.27(b) and (c))	

General Vehicle Specifications

Meets/Does Not Meet/NA	Specification (Regulation)	Note Actual Measurement
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	Aisles, steps, and floor areas must be slip resistant. (§ 38.25(a))	
	Step edges, thresholds, and the boarding edge of ramps or lift platforms must have a band of color that contrasts with the step/floor surface. Typically, white or bright yellow is used to contrast against dark floors. (§ 38.25(b))	
	<p>The height of doors at accessible entrances and the interior height along the path of travel between accessible entrances and securement areas must be as follows:</p> <ul style="list-style-type: none"> • For vehicles more than 22 feet in length, the clearance from the raised lift platform or the ramp surface to the top of the door must be at least 68 inches. • For vehicles 22 feet or less in length, the overhead clearance must be at least 56 inches. <p>(§ 38.25(c))</p>	
	<p>Signs for at least two sets of forward-facing seats indicating that those seats are priority seats for persons with disabilities, and that other passengers should make such seats available to those who wish to use them. Characters on these signs must have (1) a width-to-height ratio between 3:5 and 1:1; (2) a stroke width-to-height ratio between 1:5 and 1:10; (3) minimum height (using an uppercase "X") of 5/8 inch;</p> <p>(4) wide spacing (generally, the space between letters must be 1/16 the height of uppercase letters); and (5) contrast with the background, either light-on-dark or dark-on-light. (§ 38.27(a), § 38.27(c))</p>	

	Interior handrails and stanchions must allow space for wheelchairs and other mobility aids to turn and maneuver to reach a securement location from the lift or ramp. (§ 38.29(a))	
	Handrails and stanchions must be provided in the vehicle entrance so that a person with a disability can grasp the handrail or stanchion to board from outside the vehicle and then pay a fare. Handrails must (1) have a cross-sectional diameter of 1 1/4 to 1 1/2 inches or provide equivalent grasping service; (2) have eased edges with corner radii of at least 1/8 inch; and (3) be placed to provide a minimum of 1 1/2 inches of knuckle clearance from the nearest adjacent surface. On vehicles more than 22 feet in length with on-board fare collection systems, a horizontal assist must be provided across the front of the vehicle.(§ 38.29(b))	
	For vehicles more than 22 feet in length, an overhead handrail or handrails must be provided which are continuous except for a gap at the rear doorway. (§ 38.29(c))	
	Handrails and stanchions must be sufficient to permit safe boarding, on-board circulation, sitting and standing assistance, and exiting by persons with disabilities. (§ 38.29(d))	
	For vehicles more than 22 feet in length with front-door lifts or ramps, vertical stanchions immediately behind the driver must either terminate at the lower edge of the aisle-facing seats or be “dog-legged” so that the floor attachment does not impede or interfere with wheelchair footrests. (§ 38.29(e))	
	If a wheelchair user must pass the driver’s seat, the seat platform must not extend into the aisle or vestibule beyond the wheel housing, to the maximum extent practicable. (§ 38.29(e))	
	Any stepwell or doorway with a lift or ramp, immediately adjacent to the driver must have —when the door is open—at least 2 foot-candles of lighting measured on the step tread or lift platform. (§ 38.31(a))	
	Other stepwells, and doorways with lifts or ramps must have at all times at least 2 foot-candles of lighting measured on the step tread or lift or ramp, when deployed at the vehicle floor level. (§ 38.31(b))	
	All vehicle doorways must have outside lights that, when the door is open, provide at least 1 foot-candle of lighting on the street surface for a distance 3 feet (915 mm) perpendicular to the bottom step tread or lift outer edge. These lights must be shielded to protect the eyes of entering and exiting passengers. (§ 38.31(c))	
	If present, a farebox must be located as far forward as practicable and must not obstruct traffic in the vestibule, especially for wheelchairs and mobility aids. (§ 38.33)	
	If a vehicle is more than 22 feet in length and used in multiple-stop, fixed-route service,	

	<p>then it must be equipped with a public address system permitting the driver, or recorded or digitized human speech messages, to announce stops and provide other passenger information within the vehicle. (§ 38.35(a))</p> <p>Note: MBTA preference is given to vendors proposing to use vehicles equipped with a public address system that automatically emits stop announcements at pre-determined locations along a fixed-route, and general passenger information.</p>	
	<p>Where passengers may choose to board or alight at multiple stops, vehicles more than 22 feet in length must provide controls adjacent to the securement location for requesting stops and alerting the driver that a mobility-aid user wishes to disembark (i.e., stop- request controls). The controls must (1) be mounted no higher than 48 inches and no lower than 15 inches above the floor; (2) be operable with one hand; (3) not require tight grasping, pinching, or twisting of the wrist; and (4) not require more than 5 lbf (22.2N) of force to activate. This system must provide auditory and visual indications that a request has been made. (§ 38.37)</p>	
	<p>MBTA preference is given to vendors proposing to use vehicles equipped with interior visual messaging screens capable of providing visual equivalency for bus stop and general passenger information announced audibly within the vehicle.</p>	
	<p>If destination or route information is displayed on a vehicle's exterior, then the vehicle must have illuminated signs on its front and boarding side.</p> <p>Characters on these signs must have (1) a width-to height ratio between 3:5 and 1:1; (2) a stroke width-to height ratio between 1:5 and 1:10; (3) a minimum character height (using an uppercase "X") of 1 inch for signs on the boarding side; (4) a minimum character height of 2 inches for front "heads signs"; (5) "wide" spacing (generally, the space between letters must be 1/16 the height of uppercase letters); and (6) contrast with the background, either dark-on-light or light-on dark. (§ 38.39)</p>	